

## Biological classification or *scientific classification in biology*,

**Biological classification** or *scientific classification in biology*, is a method by which [biologists](#) group and categorize [species](#) of [organisms](#). Biological classification is a form of [scientific taxonomy](#), but should be distinguished from [folk taxonomy](#), which lacks scientific basis. Modern biological classification has its root in the work of [Carolus Linnaeus](#), who grouped species according to shared physical characteristics. These groupings since have been revised to improve consistency with the [Darwinian](#) principle of [common descent](#). [Molecular systematics](#), which uses [DNA sequences](#) as data, has driven many recent revisions and is likely to continue to do so. Biological classification belongs to the science of [biological systematics](#).

**Taxonomy** is the practice and science of classification. The word comes from the [Greek](#) *τάξις*, *taxis* (meaning 'order', 'arrangement') and *νόμος*, *nomos* ('law' or 'science'). Taxonomies, or taxonomic schemes, are composed of *taxonomic units* known as *taxa* (singular [taxon](#)), or kinds of things that are arranged frequently in a [hierarchical](#) structure. Typically they are related by subtype-supertype relationships, also called parent-child relationships. In such a subtype-supertype relationship the subtype kind of thing has by definition the same constraints as the supertype kind of thing plus one or more additional constraints. For example, car is a subtype of [vehicle](#). So any car is also a vehicle, but not every vehicle is a car. Therefore, a thing needs to satisfy more constraints to be a car than to be a vehicle.

Domain

Kingdom

Phylum

Class

Order

Family

Genus

Species

There are 8 main [taxonomic ranks](#): domain, kingdom, phylum, class, order, family, genus, species.

There are slightly different ranks for zoology and for botany.

### Examples of the Scientific Classification Systems

Kindom	Animal	Animal	Animal	Animal
Phylum	Arthropoda	Arthropoda	Chordata	Mollusca
Class	Insecta	Arachnida	Mammalia	Gastropoda
Order	Diptera	Acarina	Carnivora	Pulmonata
Family	Muscidae	Ixodidae	Felidae	Limacidae
Genus	<i>Musca</i>	<i>Dermacentor</i>	<i>Felis</i>	<i>Argiolimax</i>
Species	<i>domestica</i>	<i>variabilis</i>	<i>domestica</i>	<i>reticulatus</i>
Common Name	(house fly)	(dog tick)	(house cat)	(gray garden slug)

# Scientific Classification

The system to group life on Earth most often uses five kingdoms:

{ Monera Protista Plantae  
Fungi Animalia

For example, within the **Kingdom Animalia**, life is organized, from general to specific, using these categories:



## Kingdom:

*Animalia*

The largest unit of biological classification of animals.

## Phylum:

*Chordata*

Animals with a rod-like structure that develops into a backbone.

## Class:

*Mammalia*

Animals with a mammary gland that feed their young milk.

## Order:

*Carnivora*

Animals that primarily eat flesh and possess special teeth (caninials) for shearing through flesh.

## Family:

*Ursidae*

Carnivores with large skulls and short tails.

## Genus:

*Ursus*

All bears with the exception of those that eat mostly vegetation.

## Species:

*Martimarus*

Common name—Polar Bear

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